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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte DOMINIQUE HAMOIR

Appeal 2009-000510
Application 09/856,362
Technology Center 2600

Decided: February 25, 2010

Before ALLEN R. MACDONALD, *Vice Chief Judge*,
KENNETH W. HAIRSTON and, ROBERT E. NAPPI, *Administrative
Patent Judges*.
HAIRSTON, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellant appeals under 35 U.S.C. § 134 from a final rejection of claims 1 to 8 and 10 to 25. We have jurisdiction under 35 U.S.C. § 6(b).

We will reverse the enablement rejection of claims 24 and 25, and reverse the obviousness rejections of claims 1 to 8 and 10 to 23.

Appellant has invented a very broadband wavelength division multiplexed transmission system that compensates for energy transfers between channels created by the Raman effect (Spec. 4). The Raman gain effect is applied to a very broadband transmission system at the low end of the band by using amplification, and at the high end of the band by using attenuation or linear losses of the fiber of the transmission system (Spec. 5, 10, and 13).

Claim 1 and 24 are illustrative of the claims on appeal, and they read as follows:

1. A very broad band wavelength division multiplexed transmission system comprising optical media for carrying signals subject to a Raman effect, said system further comprising means for compensating energy transfers between channels caused by the Raman effect over the very broad band.

24. A very broad band wavelength division multiplexed transmission system comprising an optical fiber for carrying signals subject to a Raman effect, wherein the optical fiber further provides linear losses to compensate enrichment of channels over the end of the very broad band.

The prior art relied upon by the Examiner in rejecting the claims on appeal is:

Saleh	US 6,587,241 B1	July 1, 2003 (filed Aug. 20, 1999)
Chraplyvy (European Patent Application)	EP 0 749 224 A2	Dec. 18, 1996

The Examiner rejected claims 24 and 25 under the first paragraph of 35 U.S.C. § 112 for lack of enablement because the Examiner is of the opinion that these claims are directed to a single means.

The Examiner rejected claims 1 to 6, 11 to 18, 21, and 22 under 35 U.S.C. § 103(a) based upon the teachings of Saleh.

The Examiner rejected claims 7, 8, 10, 19, 20, and 23 under 35 U.S.C. § 103(a) based upon the teachings of Saleh and Chraplyvy.

Turning first to the lack of enablement rejection, Appellant argues *inter alia* (Amended App. Br. 9, 10) that the Examiner improperly rejected the claims based upon a recitation of a single means because the claims lack any recitation of a means.

Turning next to the obviousness rejections of claims 1 to 8 and 10 to 23, Appellant argues (Amended App. Br. 11, 12) that Saleh does not mention energy transfers between channels caused by the Raman effect over the very broad band.

ISSUES

Enablement

Has the Examiner erred by finding that claims 24 and 25 are single means claims?

Obviousness

Has the Examiner erred by finding that the applied reference to Saleh describes energy transfers between channels caused by the Raman effect over the very broad band?

FINDINGS OF FACT (FF)

1. Claim 24 does not recite a *means* for performing a function.
2. Saleh describes a very broad band wavelength division multiplexed transmission system with a band that extends to 1650 nm (col. 5, l. 12; col. 7, ll. 13-27; col. 12, ll. 15-17).
3. Saleh describes an optical protection method and system in which a Raman optical amplifier is configured to provide partitioned power amplification over the range of signal wavelengths carrying information between optical signal processing nodes so that if a portion of the power amplifier fails for one wavelength group, the remaining amplifier power supplies will continue to function and provide optical amplification for the surviving wavelength groups (Abstract; col. 3, ll. 41-53; col. 5, ll. 34-50; col. 6, ll. 7- 13. Raman pump sources 34 provide Raman gain to indistinct signal wavelength ranges (col. 6, l. 42- col. 7, l. 2; col. 7, ll. 53-64; col. 11, l. 62 to col. 12, l. 2).
4. Chraplyvy describes a wavelength division multiplexed (WDM) optical transmission system in which the WDM spectrum is shaped for decreased power level for a long wavelength channel relative to a short wavelength channel whereby stimulated Raman scattering (SRS) degradation is reduced (col. 7, ll. 34-47).

PRINCIPLES OF LAW

Enablement

A single means claim recites a *means* that does not appear in combination with another recited element or means. *In re Hyatt*, 708 F.2d 712, 714-15 (Fed. Cir. 1983).

Obviousness

The Examiner bears the initial burden of presenting a prima facie case of obviousness, and the Appellant has the burden of presenting a rebuttal to the prima facie case. *In re Oetiker*, 977 F.2d 1443, 1445 (Fed. Cir. 1992).

ANALYSIS

Enablement

As indicated *supra* (FF 1), Appellant argues that the lack of enablement rejection should be reversed because the claims do not recite a single *means*. We agree with Appellant's argument. Accordingly, the lack of enablement rejection of claims 24 and 25 is reversed because a single *means* is not recited in the claims. *Hyatt*, 708 F.2d at 714-15.

Obviousness

Although Saleh describes a very broad band wavelength division multiplexed transmission system with a band that extends to 1650 nm (FF 2), Saleh is silent as to means for compensating energy transfers between channels caused by the Raman effect over the very broad band (FF 3). Thus, the obviousness rejection of claims 1 to 6, 11 to 18, 21, and 22 is reversed. *See Oetiker*, 977 F.2d at 1445.

The obviousness rejection of claims 7, 8, 10, 19, 20, and 23 is reversed because the decreased power levels for long wavelengths teachings of Chraplyvy fail to cure the noted shortcoming in the teachings of Saleh.

CONCLUSIONS OF LAW

Enablement

Appellant has demonstrated that the Examiner erred by finding that claims 24 and 25 are single means claims.

Obviousness

Appellant has demonstrated that the Examiner erred by finding that Saleh describes energy transfers between channels caused by the Raman effect over the very broad band.

ORDER

The decision of the Examiner rejecting claims 24 and 25 under the first paragraph of 35 U.S.C. § 112 is reversed.

The decision of the Examiner rejecting claims 1 to 8 and 10 to 23 under 35 U.S.C. § 103(a) is reversed.

REVERSED

KIS

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